

VERIFICATION OF TRANSLATION

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That my name and address are as stated below under my
signature;

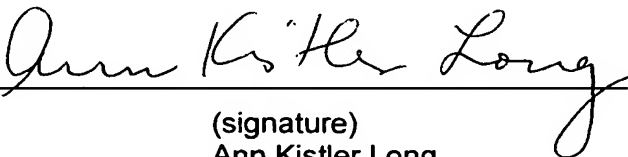
That I am conversant with the English and German languages;
and

That the attached translation is a true translation prepared by
me of the accompanying International Application No. PCT/CH03/00413,
filed on June 24, 2003, and of the accompanying amended pages filed on
November 16, 2004.

I hereby declare that all statements made herein of my own
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December 5, 2005



(signature)
Ann Kistler Long
Friedlistrasse 4
CH-3006 Berne
Switzerland

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It is an object of the present invention, to propose a new and improved method and system for recording and monitoring work time which satisfies the present day requirements with respect to conditions of employment (mobility, physical prerequisites, etc.), user friendliness and security, and which
5 in particular does not have the drawbacks mentioned above.

These objects are achieved according to the present invention in particular through the elements of the independent claims. Further advantageous embodiments follow moreover from the dependent claims and from the specification.

10 In particular, these objects are achieved by the invention in that user data are recorded by a data recording client, and are transmitted to a central unit via a first communication channel, based on which user data the user is identified by means of a user database, the data recording client recording biometric data and/or data on physical condition of the user by means of an
15 input unit of the data recording client, and transmitting these data together with the user data via a first communication channel to the central unit, the central unit comparing the transmitted biometric data and/or data on physical condition with biometric data and/or data on physical condition of users stored in the user database, and a user being identified, by means of the central unit, if the
20 probability of a correspondence of the transmitted biometric data to particular stored biometric data lies above a predefined threshold, an additional identification of the user taking place by means of a user code, which user code is generated by the central unit based on the identification of the user and transmitted biometric data and is transmitted via a second communication
25 channel to a mobile unit of the user, the user code being entered by the user via input elements of the data recording client, whereby, with successful identification, at least one user status, assigned to a data record of the identified user, is modified and stored, based on time and/or place of capture of the user data, and the data records of the user are transmitted to a
30 remuneration recording module, and are evaluated and/or checked by means of the remuneration recording module. The biometric data can comprise e.g. fingerprints, iris recognition, DNA analysis, etc. The data on physical condition

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can comprise, for example, body temperature, blood values (e.g. blood sugar, etc.), alcohol values, pulse, etc. In addition, the data can be transmitted encrypted or signed. The mobile unit can comprise a mobile radio device and/or a PDA and/or a mobile node of a WLAN. The advantage of this invention is in particular that the work time recording and work time accounting as well as productivity calculations and performance recording for individual users can take place simply and efficiently. In particular, the user and/or employee does not need any identification cards for this purpose, such as e.g. magnetic cards, etc., control patches or the like. The system and method are therefore more economical and less error-prone. Thus neither do magnetic cards etc. need to be manufactured, nor is a personnel-intensive administration of the cards necessary. Likewise advantageous is that the employee can neither forget nor lose biometric features, in contrast to identification cards, etc., and the security against fraud (such as e.g. counterfeiting, forgery, theft of cards) is considerably increased. The same applies for an identification by means of user identification code (ID), which e.g. can easily be forgotten by the user and/or employee, or misused in a fraudulent way if the ID has been noted somewhere by the user, for example. The unambiguous and secure user identification can be important in particular in the billing for services or working hours of mobile working users and/or employees. Another advantage lies in the additional capturing of data on physical condition, whereby security in user identification can be increased, in that e.g. during scanning of the fingerprint, the body temperature of the finger and/or chemical/physical characteristics of the skin (skin tension, salt content, etc.) and/or pulse can be measured at the same time. Finger reproductions being used with the system in a fraudulent way can thereby be prevented, for example. Safety regulations, for instance, can also be controlled with respect to the user (e.g. alcohol content, for instance in the case of long distance truck drivers, body temperature in order to detect diseases, etc.). A further advantage is <sic. of> this invention is that the security standard during the identification can be further increased by an additional control parameter being added by means of the user code which is supposed to be known only to the specific user. Moreover the advantage of this invention lies in particular in that through the combination of two separate communication channels, i.e., for example, with a LAN/WLAN connection

between the data recording client and the central unit and e.g. a bidirectional communication platform, such as e.g. a mobile radio network, such as a GSM (Global System for Mobile communication), GPRS (Generalized Packet Radio Service) or UMTS (Universal Mobile Telephone System) network, the
5 advantages of the other platform in each case can be combined in an advantageous way for the invention. In this way e.g. mobile radio networks such as GSM or UMTS networks have a high security standard. At the same time the security during identification of the user is increased by the two communication channels being independent of one another. Fraud can thereby
10 be practically excluded.

In an embodiment variant, access to definable premises and/or use of definable devices is granted to the user by the central unit only with successful identification and authorization. This has the advantage, among others, that a central access control or respectively access control by the
15 system takes place at the same time. This considerably simplifies the administration of these otherwise heterogeneous systems. At the same time compliance with legal regulations, for example, such as e.g. driving time limitations in the case of truck drivers, etc. can be centrally controlled and enforced simply and effectively. If, for example, the data recording client is
20 integrated in a truck, compliance with the working hours can be enforced via the central unit by means of an interruption of ignition upon surpassing the legally prescribed working times by the user.

In an embodiment variant, captured and/or transmitted with the user data are additionally premise-specific and/or device-specific control data,
25 access or use being granted by means of the central unit in dependence upon the control data. This has the advantage, among others, that access to the individual rooms and building sections can be granted selectively according to predefined criteria. Likewise, with devices such as e.g. machines, or vehicles, operational parameters can be checked such as state of battery, filling of the
30 tank, tire pressure, etc., the device being released for use only under predetermined conditions and/or safety standards.

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Claims

1. Work time recording method, in which user data are recorded by a data recording client (10,...,16), and are transmitted to a central unit (20/21) via a first communication channel (30/31), the user (1) being identified based on
 5 the user data by means of a user database (40), characterized

in that the data recording client (10,...,16) records biometric data and/or data on physical condition of the user (1) by means of an input unit (101) of the data recording client (10,...,16), and transmits this data together with the user data via a first communication channel (30/31) to the central unit (20/21),

10 in that the central unit (20/21) compares the transmitted biometric data and/or data on physical condition with biometric data and/or data on physical condition of users stored in the user database (40), and a user (1) is identified by means of the central unit (20/21), if the probability of a
 15 correspondence of the transmitted biometric data to defined stored biometric data lies above a predefined threshold,

in that an additional identification of the user (1) takes place by means of a user code, which user code is generated by the central unit (20/21) based on the identification of the user (1) and transmitted biometric data, and is transmitted via a second communication channel (32) to a mobile unit (2) of the
 20 user (1), the user code being entered by the user (1) via input elements (102) of the data recording client (10, ..., 16),

in that with successful identification, at least one user status, assigned to a data record of the identified user (1), is modified and stored, based on time and/or place of recording of the user data, and

25 in that the data records of the user are transmitted to a remuneration recording module (50), and are evaluated and/or checked by means of the remuneration recording module (50).

2. Work time recording method according to claim 1, characterized in

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that access to definable premises and/or use of definable devices is granted to the user (1) by the central unit (20/21) only with successful identification and authorization.

3. Work time recording method according to claim 2, characterized in
5 that captured and/or transmitted with the user data are additionally premise-specific and/or device-specific control data, access or use being granted by means of the central unit (20/21) in dependence upon the control data.

4. Work time recording method according to one of the claims 1 to 3,
10 characterized in that the mobile unit (2) comprises a mobile radio device and/or a PDA and/or a mobile node of a WLAN.

5. Work time recording method according to one of the claims 1 to 4,
characterized in that the additional identification by the central unit (20/21) by means of user code takes place only in the case where the probability of a
15 correspondence of the transmitted biometric data to defined stored biometric data lies below the predefined threshold.

6. Work time recording method according to one of the claims 1 to 5,
characterized in that after successful additional identification of the user (1) by means of user code, new biometric data are captured by the input unit (101) of
20 the data recording client (10,...,16), and are stored, assigned to the user (1), in the database (40).

7. Work time recording method according to one of the claims 1 to 6,
characterized in that different central units (20/21) access the same database (40) with the stored biometric data of the user via a network (31), the database
(40) comprising means (41) for identification and/or authorization of the
25 different central units (20/21) and means (41) for transmitting and receiving data over the network (31).

8. Work time recording method according to one of the claims 1 to 7,

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characterized in that used as data recording client (10,...,16) is a mobile node of a WLAN or a mobile radio device.

5 9. Work time recording system, which comprises a data recording client (10,...,16) for capturing user data and means for transmitting the user data over a first communication channel (30/31) to a central unit (20/21), the user (1) being identifiable based on the user data by means of a user database (40), characterized

10 in that biometric data and/or data on physical condition of the user (1), which are able to be captured by means of an input unit (101) of the data recording client (10,...,16), are transmittable together with the user data,

in that the user database (40) comprises stored biometric data and/or data on physical condition of the user (1), by means of which a user (1) is identifiable, if the probability of a correspondence of the transmitted biometric data to defined stored biometric data lies above a predefinable threshold,

15 in that the central unit (20/21) comprises means of generating a user code as well as a second communication channel (32) for transmitting the user code to a mobile unit (2) of the user (1), the user (1) entering the user code via input elements (102) of the data recording client (10, ..., 16),

20 in that with successful identification at least one user status assigned to the data record is modifiable based on time and/or place of capture of the user data, and

in that the monitoring and time recording system comprises a remuneration recording module (50) for periodic evaluation and/or checking of the data records of the users.

25 10. Work time recording system according to claim 9, characterized in that the monitoring and time recording system comprises access control

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modules, by means of which access to definable premises and/or use of definable devices is granted to the user (1) by the central unit (20/21) only with successful identification and authorization.

5 11. Work time recording system according to claim 10, characterized in that the user data additionally comprise premises-specific and/or device-specific control data, access and/or use being determinable by means of the central unit (20/21) in dependence upon the control data.

10 12. Work time recording system according to one of the claims 9 to 11, characterized in that the mobile unit (2) comprises a mobile radio device and/or a PDA and/or a mobile node of a WLAN.

15 13. Work time recording system according to one of the claims 9 to 12, characterized in that the additional identification by means of user code by the central unit (20/21) takes place only in the case where the probability of a correspondence of the transmitted biometric data with defined stored biometric data lies below the predefined threshold.

20 14. Work time recording system according to one of the claims 9 to 13, characterized in that, after successful additional identification of the user (1) by means of user code, new biometric data are able to be captured by the input unit (101) of the data recording client (10,...,16), and are storable, assigned to the user (1), in the central unit (20/21).

25 15. Work time recording system according to one of the claims 9 to 14, characterized in that the system comprises means for bidirectional access to the database (40) by different central units (20/21) via the networks (31), the database (40) comprising means (41) for identification and/or authorization of the different central units (20/21) and means (41) for transmitting and receiving data over the network (31).

16. Work time recording system according to one of the claims 9 to

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15, characterized in that the data recording client (10,...,16) is integrated in a mobile node of a WLAN or a mobile radio device.

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